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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
ALEJANDRO MULERO, LUZ L	
ART UNIT	**PAPER NUMBER**
1763	

DATE MAILED: 02/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/769,216	LAI ET AL.	
	Examiner	Art Unit	
	Luz L. Alejandro	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *41-48* is/are pending in the application.

4a) Of the above claim(s) *46-48* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *41-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *0104*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 41-45, drawn to an apparatus, classified in class 118, subclass 723R+.

II. Claims 46-48, drawn to a method, classified in class 438, subclass 460.

The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process such as a die-separation process or a synthesize process.

Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, and the inventions require a different field of search, restriction for examination purposes as indicated is proper.

During a telephone conversation with Patrick on Boucher a provisional election was made without traverse to prosecute the invention of Group I, claims 41-45. Affirmation of this election must be made by applicant in replying to this Office action. Claims 46-48 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

> The oath or declaration is defective because:
> Non-initialed and/or non-dated alterations have been made to the oath or declaration (see the citizenship of the first inventor). See 37 CFR 1.52(c).

Priority

Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. [1] as follows:

This application is claiming the benefit of prior-filed nonprovisional application No. 09/839360 under 35 U.S.C. 120, 121, or 365(c). Copendency between the current application and the prior application is required. Since the applications are not copending, the benefit claim to the prior-filed nonprovisional application is improper.

Applicant is required to delete the reference to the prior-filed application from the first sentence(s) of the specification, or the application data sheet, depending on where the reference was originally submitted, unless applicant can establish copendency between the applications.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 41-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Kurihara et al., US 5,565,249.

Kurihara et al. discloses the invention as claimed including a plasma torch comprising: an outer nozzle 2c/53c; an inner nozzle 2b/53b, the inner nozzle including a conduit passing through the inner nozzle from an inlet side toward an outlet; a toroidal transformer core 11 surrounding the conduit; a bypass providing a return path for a secondary plasma current circuit around the toroidal transformer core; wherein the inner nozzle comprises metal and further including a dielectric spacer 10 in the inner nozzle (see, for example, figs. 3 and 12 and their descriptions).

With respect to claims 43-44, such limitations are directed to method limitations instead of apparatus limitations, and since an apparatus is being claimed as the instant invention, the method teachings are not considered to be the matter at hand, since a

variety of methods can be done with the apparatus. The method limitations are viewed as intended uses which do not further limit, and therefore do not patentably distinguish the claimed invention. The apparatus of Kurihara et al. is capable of supplying a first gas through the conduit and a second gas through the bypass, the first gas (oxygen) being different than the second gas (hydrogen), as claimed, if the process to be perform in the plasma torch requires the claimed gases. Furthermore, note that the Kurihara et al. reference further disclose the use of both oxygen gas and hydrogen gas (see, for example, col. 7, lines 53-58 and col. 8, lines 1-4).

Claim 41 and 45 is rejected under 35 U.S.C. 102(b) as being anticipated by Smith et al., US 6,150,628.

Smith et al. discloses the invention as claimed including a plasma apparatus comprising: an outer nozzle (right hand side of plasma source 10); an inner nozzle (the left hand side of plasma source 10), the inner nozzle including a conduit passing through the inner nozzle from an inlet side toward an outlet; a toroidal transformer core 16 surrounding the conduit; a bypass providing a return path for a secondary plasma current circuit around the toroidal transformer core; wherein a primary coil is disposed to couple electro-magnetic energy to the toroidal transformer core (see, for example, fig. 1 and its description).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurihara et al., US 5,565,249 in view of Smith et al., US 6,150,628.

Kurihara et al. is applied as above but does not expressly disclose the claimed primary coil. Smith et al. discloses a toroidal transformer core to which a primary coil is coupled (see, for example, fig.1 and its description, col. 2, lines 55-57, col. 4, lines 20-22 and 44-46). Therefore, in view of this disclosure, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Kurihara et al. as further comprise the primary coil in order to couple electro-magnetic energy to the core. Note that the apparatus of Kurihara et al. modified

by Smith et al. will comprise a primary coil and a toroidal core enclosed within the inner nozzle.

Claims 41-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tapphorn et al., US 2002/0168466 in view of Kurihara et al., US 5,565,249.

Tapphorn et al. discloses the invention substantially as claimed including a plasma apparatus comprising: an outer nozzle; an inner nozzle; the inner nozzle including a conduit 37 passing through the inner nozzle from an inlet side toward an outlet; a bypass 33; wherein the inner nozzle comprises metal and further including a dielectric spacer 36 in the inner nozzle (see, for example, fig. 6 and its description).

Tapphorn et al. does not expressly disclose the toroidal transformer core. Kurihara et al. discloses a plasma apparatus comprising an outer nozzle 2c/53c, an inner nozzle 2b/53b including a conduit passing through the inner nozzle from an inlet side toward an outlet side, and a toroidal core 11 surrounding the conduit (see, for example, figs. 3 and 12, and their descriptions). Therefore, in view of this disclosure, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Tapphorn et al. as to further comprise the toroidal core surrounding the conduit in order to generate magnetic field in order to optimize the apparatus and/or the process performed in the apparatus.

With respect to claims 43-44, such limitations are directed to method limitations instead of apparatus limitations, and since an apparatus is being claimed as the instant invention, the method teachings are not considered to be the matter at hand, since a

variety of methods can be done with the apparatus. The method limitations are viewed as intended uses which do not further limit, and therefore do not patentably distinguish the claimed invention. The apparatus of Tapphorn et al. is capable of supplying a first gas through the conduit and a second gas through the bypass, the first gas (oxygen) being different than the second gas (hydrogen), as claimed, if the process to be perform in the plasma torch requires the claimed gases. Furthermore, note that the Kurihara et al. reference further disclose the use of both oxygen gas and hydrogen gas (see, for example, col. 7, lines 53-58 and col. 8, lines 1-4).

Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tapphorn et al., US 2002/0168466 in view of Kurihara et al., US 5,565,249 as applied to claims 41-44 above, and further in view of Smith et al., US 6,150,628.

Tapphorn et al. and Kurihara et al. are applied as above but does not expressly disclose the claimed primary coil. Smith et al. discloses a toroidal transformer core to which a primary coil is coupled (see, for example, fig.1 and its description, col. 2, lines 55-57, col. 4, lines 20-22 and 44-46). Therefore, in view of this disclosure, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Tapphorn et al. modified by Kurihara et al. as further comprise the primary coil in order to couple electro-magnetic energy to the core. Note that the apparatus of Tapphorn et al. modified by Kurihara et al. and Smith et al. will comprise a primary coil and a toroidal core enclosed within the inner nozzle.

Claims 41-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tapphorn et al., US 2002/0168466 in view of Smith et al., US 6,150,628.

Tapphorn et al. discloses the invention substantially as claimed including a plasma apparatus comprising: an outer nozzle; an inner nozzle; the inner nozzle including a conduit 37 passing through the inner nozzle from an inlet side toward an outlet; a bypass 33; wherein the inner nozzle comprises metal and further including a dielectric spacer 36 in the inner nozzle (see, for example, fig. 6 and its description).

Tapphorn et al. does not expressly disclose the claimed toroidal transformer core or primary coil. Smith et al. discloses a toroidal transformer core 16 (to which a primary coil is coupled) coupled to a gas conduit/nozzle (see, for example, fig.1 and its description, col. 2, lines 55-57, col. 4, lines 20-22 and 44-46). Therefore, in view of this disclosure, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Tapphorn et al. as further comprise a toroidal core surrounding the gas conduit/nozzle in order to couple electro-magnetic energy to activate the gas going through the gas conduit. Note that the apparatus of Tapphorn et al. modified by Smith et al. will comprise a primary coil and a toroidal core enclosed within the inner nozzle.

With respect to claims 43-44, such limitations are directed to method limitations instead of apparatus limitations, and since an apparatus is being claimed as the instant invention, the method teachings are not considered to be the matter at hand, since a variety of methods can be done with the apparatus. The method limitations are viewed as intended uses which do not further limit, and therefore do not patentably distinguish

the claimed invention. The apparatus of Tapphorn et al. is capable of supplying a first gas through the conduit and a second gas through the bypass, the first gas (oxygen) being different than the second gas (hydrogen), as claimed, if the process to be perform in the plasma torch requires the claimed gases.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luz L. Alejandro whose telephone number is 571-272-1430. The examiner can normally be reached on Monday to Thursday from 7:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Luz L. Alejandro
Primary Examiner
Art Unit 1763

February 21, 2006